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ABSTRACT

The present invention relates to a poly(trimethylene terephthalate) comprising 80% by weight or more of trimethylene terephthalate units based on the entire repeating units, having an intrinsic viscosity of from 0.4 to 1.5 dl/g, and satisfying the following formula (1):

$$(1) \quad [-OH]/([-OH] + [-COOH] + [-CH_2CH=CH_2]) \times 100 \geq 40$$

wherein  $[-OH]$ ,  $[-COOH]$  and  $[-CH_2CH=CH_2]$  represent a terminal hydroxyl group content, a terminal carboxyl group content and a terminal allyl group content of the poly(trimethylene terephthalate), respectively.

The poly(trimethylene terephthalate) is a polymer for molding with high whiteness excellent in melt stability, oxidation resistance stability and spinning stability, and suitable for molding a fiber, a film, and the like.

The above poly(trimethylene terephthalate) can be produced by the following process regardless of the charging scale in polymerization. Terephthalic acid or/and its lower alcohol ester is reacted with 1,3-propanediol to form 1,3-propanediol ester of terephthalic acid and/or its oligomer, and then polycondensation reaction of the reactant is conducted at temperature of from 235 to 270°C while the above formula (1) is being satisfied to give the above poly(trimethylene terephthalate).